

The listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of claims:**

1-37. (Canceled)

38. (Currently amended) A gaming apparatus, comprising:

a display unit;

a value input device;

a touch screen unit including:

a sinusoid generator coupled to a first electrode of a touch screen, the sinusoid generator adapted to generate a first sinusoidal signal having a frequency, the sinusoid generator comprising a modification device configured to modify the frequency of operation of the first electrode;

a first sensor coupled to the first electrode to generate a first sensed signal indicative of a signal flowing from the first electrode;

a first multiplier having a first input coupled to the first sensor, a second input coupled to receive a second sinusoidal signal having the frequency and a phase, and an output;

a second multiplier having a first input coupled to the first sensor, a second input coupled to receive a third sinusoidal signal having the frequency, and a phase 90 degrees out of phase with the phase of the second sinusoidal signal, and an output, wherein both the first multiplier and the second multiplier are configured to receive the first sensed signal;

a first low pass filter having an input and an output, the input of the first low pass filter coupled to the output of the first multiplier;

a second low pass filter having an input and an output, the input of the second low pass filter coupled to the output of the second multiplier;

a first amplitude calculator having a first input, a second input, and an output, wherein the first input of the first amplitude calculator is coupled to the output of the first low pass filter, and wherein the second input of the first amplitude calculator is coupled to the output of the second low pass filter; and

a touch position calculator having a first input coupled to the output of the first amplitude calculator, wherein the touch position calculator is adapted to generate an estimate of a touch position based on the output of the first amplitude calculator;

a main controller operatively coupled to the display unit, the value input device, and the touch screen unit, the main controller comprising a main processor and a main memory operatively coupled to the main processor,

the main controller being programmed to receive value input data via the value input device,

the main controller being programmed to cause the display unit to generate a first game display relating to one of the following games: poker, blackjack, slots, keno or bingo,

the main controller being programmed to receive player input data via the touch screen unit,

the main controller being programmed to determine a value payout associated with an outcome of the game

at least one of the main controller and the touch position calculator configured to determine the frequency of operation from a plurality of frequencies.

39. (Original) A gaming apparatus according to claim 38, wherein the first amplitude calculator comprises:

a first analog-to-digital converter (ADC) having an input and an output, wherein the input of the first ADC is coupled to the output of the first low pass filter; and

a second ADC having an input and an output, wherein the input of the second ADC is coupled to the output of the second low pass filter.

40. (Original) A gaming apparatus according to claim 39, wherein the touch screen unit comprises a touch screen controller operatively coupled to the first analog-to-digital converter (ADC), the second ADC, and the main controller, the touch screen controller comprising a touch screen processor and a touch screen memory operatively coupled to the touch screen processor,

the touch screen controller being programmed to calculate an estimate of an amplitude of the signal flowing from the first electrode based on outputs of the first ADC and the second ADC.

41. (Currently amended) A gaming apparatus according to claim 40, wherein the main controller is programmed to calculate a touch position estimate based on the estimate of the amplitude of the signal flowing from the first electrode.

42. (Original) A gaming apparatus according to claim 40, wherein the touch screen controller is programmed to calculate a touch position estimate based on the estimate of the amplitude of the signal flowing from the first electrode;

wherein the touch screen controller is programmed to provide the touch position estimate to the main controller.

43. (Original) A gaming apparatus according to claim 39, wherein the main controller is operatively coupled to the first analog-to-digital converter (ADC) and the second ADC;

wherein the main controller is programmed to calculate an estimate of an amplitude of the signal flowing from the first electrode based on outputs of the first ADC and the second ADC.

44. (Original) A gaming apparatus according to claim 43, wherein the main controller is programmed calculate a touch position estimate based on the estimate of the amplitude of the signal flowing from the first electrode.

45. (Original) A gaming apparatus according to claim 38, further comprising an analog-to-digital converter (ADC) having an input and an output, wherein the input of the ADC is coupled to the first sensor, and wherein the output of the ADC is coupled to the first input of the first multiplier and to the first input of the second multiplier.

46. (Previously Presented) A gaming apparatus according to claim 38, wherein the sinusoid generator further comprises an oscillator configured to generate a signal having a frequency, and wherein the modification device is configured to modify the frequency of operation without a need to change the frequency of the signal generated by the oscillator.

47. (Previously Presented) A gaming apparatus according to claim 38, wherein the modification device comprises at least one of a multiplexer and a frequency divider.

48. (Previously Presented) A gaming apparatus according to claim 38, wherein at least one of the touch position calculator and the main controller is configured to determine a plurality of ambient levels corresponding to the plurality of frequencies.

49. (Previously Presented) A gaming apparatus according to claim 48, wherein at least one of the touch position calculator and the main controller is configured to determine a minimum value from the plurality of ambient levels.